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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,691	08/08/2001	Timothy J. Tautges	SD-6594.1	6477

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EXAMINER	
PHAN, THAI Q	
ART UNIT	**PAPER NUMBER**
2128	

DATE MAILED: 09/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/927,691	TAUTGES ET AL.	
	Examiner	Art Unit	
	Thai Q. Phan	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office action is in response to applicants' amendment filed on 03/23/2005. Claims 1-22 are pending in the action.

Petition under 37 CFR 1.78(a)

The petition filed on 03/23/2005 has been forwarded to the Petition Office for consideration.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibson, Sarah, US patent no. 6,084,593.

As per claim 1, Gibson discloses a method and system for generating a smooth surface net or mesh with feature limitations very similar to the claimed invention. According to Gibson, the method includes steps:

Classifying surface mesh schemes for surfaces of the representation locally using surface vertex types (Figs. 6 and 7, col. 4, lines 5-16, lines 22-47, for example),

Grouping mappable and submappable surfaces of the representation into linked surface like chains,

Computing volume edge types for the representation (cols. 4-6),

Recursively traversing surfaces of the representation and grouping the surfaces into source, target, and linking surface lists, and

Checking traversal direction when traversing onto linking surfaces (pages 134-136). Gibson does not expressly disclose the claimed limitation of grouping surfaces into chain.

Practitioner in the art at the time of the invention was made would have found the linked net in Gibson implies the surface link is being chained together to generate a linked surface or mesh as claimed.

As per claim 2, Gibson discloses conditions such as the claimed limitation for generation of a sweep surface link or mesh as claimed.

As per claim 3, Gibson discloses surface parameterization for linking (Figs. 3-5, cols. 4-6).

As per claim 4, Gibson discloses the step of determining source/target surfaces sharing edges have a same non-traversed parameter with respect to linking surfaces bounding them (cols. 4-6).

As per claim 5, Gibson discloses globally consistent ij parameterization.

As per claim 6, Gibson discloses sweeping with feature limitations for meshable (cols. 4-6, for example).

As per claim 7, Gibson discloses traversing source/target surface over any two edges of a different edge type onto one or more linking surfaces results in traversing a non-traversal parameter in an opposite direction (cols. 4-6).

As per claims 8-10, Gibson discloses the claimed limitations such end, side, corners, complete links for chaining condition for sweeping.

As per claim 11, Gibson discloses lists for source and target surface for sweeping.

As per claim 12, Gibson discloses a method and a computer software program for generating a smooth surface net or mesh with feature limitations very similar to the claimed invention. According to Gibson, the software program includes software modules and means:

Classifying surface mesh schemes for surfaces of the representation locally using surface vertex types (Figs. 6 and 7, col. 4, lines 5-16, lines 22-47, for example),

Grouping mappable and submappable surfaces of the representation into linked surface like chains,

Computing volume edge types for the representation (cols. 4-6),

Recursively traversing surfaces of the representation and grouping the surfaces into source, target, and linking surface lists, and

Checking traversal direction when traversing onto linking surfaces (pages 134-136). Gibson does not expressly disclose the claimed limitation of grouping surfaces into chain.

Practitioner in the art at the time of the invention was made would have found the linked net in Gibson implies the surface link is being chained together to generate a linked surface or mesh as claimed.

As per claim 13, Gibson also discloses the program including setting or determining conditions such as the claimed limitation for mesh generation or sweep meshable (cols. 4-6).

As per claim 14, Gibson disclosure would include mesh parameterization for meshable or mesh generation.

As per claim 15, Gibson discloses a step of determining source/target surfaces sharing edges have a same non-traversed parameter with respect to linking surfaces bounding them.

As per claim 16 Gibson discloses global net with a consistent parameterization for mesh generation.

As per claim 17, Gibson discloses a mesh generation with smoothing or sweeping surface for meshable with feature limitations (cols. 4-6).

As per claim 18, Gibson discloses traversing source/target surface over any two edges of a different edge type onto one or more linking surfaces results in traversing a non-traversal parameter in an opposite direction (cols. 4-6).

As per claims 19-21, Gibson discloses the claimed limitations such end, side, corners, link complete and link conditions for sweeping.

As per claim 22, Gibson discloses link lists for source and target surface for sweeping

Response to Arguments

Applicant's arguments to the White paper in the petition is under review. However, upon further consideration, a new ground(s) of rejection is made in view of Gibson disclosure.

Conclusion

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Thai Phan whose telephone number is 571-272-3783. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jean Homere can be reached on 571-272-3780. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

2. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 10, 2005

Thai Phan
Patent Examiner